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EXAMINER

SUMMONS, B

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 11/06/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/122,274

-it(s)

Honeycutt et al.

Examiner

Barbara Summors

Group Art Unit

2817

☒ Responsive to communication(s) filed on Jul 24, 1998

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-27 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-27 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the plurality of alignment pegs (see claim 4) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

### ***Specification***

The disclosure is objected to because of the following informalities: page 7, line 4, "24" should be corrected to --22--.

Appropriate correction is required.

### ***Claim Objections***

Claims 22 and 23 are objected to because of the following informalities: after "improved", insert --cross coupled RF filter-- for clarity. Appropriate correction is required.

### ***Claim Rejections - 35 U.S.C. § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 16 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 16 and 17, "the improved filter" lacks antecedent basis.

***Claim Rejections - 35 U.S.C. § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5-8, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Brunner (DT '789).

Brunner (fig. 1) discloses a stripline structure comprising: a sheet metal enclosure including top and bottom sheet metal covers 3; each cover includes a plurality of folded flanges extending outwardly from the enclosure, a primary PWB 1 having a plurality of conductive transmission lines 2 coupled to the top and bottom sheet metal cover flanges 4. It is inherent from the device that the sheet metal covers are ground.

In claim 6, "by a stamping process" cannot be given any patentable weight since it recites a method step in an apparatus claim.

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The subject matter of claims 16 and 17 are inherent from the device of Brunner since the device operates in a microwave frequency range.

Claims 1, 2, 4-9, 16, 17 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Dyer et al. ('802).

Dyer et al. (figs. 1 and 2) discloses a stripline structure comprising: a sheet metal enclosure including top and bottom sheet metal covers 15, 15'; a primary PWB 21 having a plurality of conductive transmission lines 21, 21', 17, 17', 18, 18', 19, 19' coupled to the top and bottom sheet metal covers by a plurality of alignment pegs 16, 22'; and a pair of electrical connectors 23, 26 (col. 3, lines 64-68) are coupled to the primary PWB.. It should be noted that the sheet metal covers are ground (col. 3, line 45), the conductive transmission lines on a top layer and a bottom layer are identical and/or connected through plated through holes (col. 4, line 1, "eyelets").

Regard to claims 6 and 24, Dyer et al. also teaches that the metal sheet covers 15, 15' may be having side plates integral with a sheet 15, 15' (i.e., folded sheet metal covers) instead of using posts/pegs 16.

In claim 6, "by a stamping process" cannot be given any patentable weight since it recites a method step in an apparatus claim.

The subject matter of claim 16 is disclosed in column 11, lines 23-33; and the subject matter of claim 17 is inherent from the device of Dyer et al. since the device operates in a microwave frequency range.

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Claims 1 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Unno (JP '702).

Unno (figs. 1-3) discloses a stripline structure comprising: a sheet metal enclosure having top and bottom sheet metal covers e; a primary PWB 52d having a plurality of transmission lines B; and a second PWB 51d having a transmission line A.

***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brunner (DT '789) in view of Onishi (JP '001).

Brunner does not show a series of plated through holes to couple the conductive transmission lines formed on both sides of the primary PWB. However, such design technique is well known in the art as shown by Onishi (figs. 1 and 2). Accordingly, it would have been obvious to one of ordinary skill in the art to provide a series of plated through holes to coupled the conductive transmission lines in the device of Brunner to obtain a broad band frequency range as taught by Onishi (see abstract).

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Claims 2, 4, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunner (DT '789) in view of Dyer et al. ('802).

Brunner lacks input and output connectors for coupling the primary PWB. However, it should be noted that input and output terminals are necessary to pass a signal in the device of Brunner.

Dyer et al. (fig. 1) discloses a similar stripline structure having an input and output connectors 23, 26 are coupled to a PWB. It would have been obvious to one of ordinary skill in the art at the time of invention was made to provide input and output connectors in the device of Brunner to pass a signal since electrical connectors are well known in the art as shown by Dyer et al.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dyer et al. ('802).

Providing different conductive transmission lines on the top and bottom layers are considered as a matter of design choice since Dyer et al. teaches that the conductive transmission lines are varied according to a desired frequency characteristic (col. 11, lines 50-64).

Claims 10-12 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dyer et al. ('802) in view of Gu et al. ('366).

Dyer et al. does not show a second PWB. However, a multi-layer stripline resonator is well known in the art as shown by Gu et al. (See figs. 1 and 8).

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Accordingly, it would have been obvious to one of ordinary skill in the art to provide additional PWB (e.g., a secondary PWB) having a transmission line in the device of Dyer et al. to obtain a high Q-factor as taught by Gu et al. (See fig. 8).

Claims 3 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dyer et al. ('802) in view of Brunner (DT '789).

Dyer et al. does not show the top and bottom sheet metal covers having a plurality of flanges instead of posts 16 for coupling the PWB.

Brunner (fig. 1) discloses a stripline structure having top and bottom sheet metal covers having a plurality of flanges for coupling the PWB.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of invention was made to provide a plurality of flanges on the covers 15, 15' instead of posts 16 in the device of Dyer et al. to hold/couple the PWB since they are functionally equivalent.

Claims 18-23 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dyer et al. ('802) in view of Brunner (DT '789) as applied to claims 3 and 26 above, and further in view of Gu et al. ('366).

The modified device of Dyer et al. does not show a second PWB. However, a multi-layer stripline resonator is well known in the art as shown by Gu et al. (See figs. 1 and 8).

Accordingly, it would have been obvious to one of ordinary skill in the art to provide additional PWB (e.g., a secondary PWB) having a transmission line in the modified device of Dyer et al. to obtain a high Q-factor as taught by Gu et al. (see abstract and fig. 8).



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***Conclusion***


1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dittmer et al. U.S. Pat. No. 5,712,607; Stinehelfer, Sr. U.S. Pat. No. 3,904,997; Stegens U.S. Pat. No. 4,281,302; and the Rooney et al. article, "Printed Circuit Integration of MW Filters", disclose MW transmission lines covered with metal conductive covers.

Glance et al. U.S. Pat. No. 3,863,181 (Fig. 4) discloses different strip transmission lines in top and bottom layers.

2. Any inquiry concerning this communication should be directed to Barbara Summons at telephone number (703) 308-4947, FAX no. (703) 308-7724, receptionist's no. (703) 308-0956.

October 31, 2000 : BSummons

  
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